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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,174	08/07/2003	Andrew R. Barron	1789-11001	2104
23505	7590	12/16/2004	EXAMINER	
CONLEY ROSE, P.C. P. O. BOX 3267 HOUSTON, TX 77253-3267			CHOI, LING SIU	
			ART UNIT	PAPER NUMBER
			1713	
DATE MAILED: 12/16/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/636,174	Applicant(s) BARRON ET AL. <span style="float: right;">77</span>	
	Examiner Ling-Siu Choi	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

### **DETAILED ACTION**

1. Claims 1-14 are now pending, wherein claims 1-13 are drawn to a method to form carboxylate-alumoxane nanoparticles and claim 14 is drawn to carboxylate-alumoxane nanoparticles

#### ***Claim Objections***

2. Claim 14 is objected to because of the following informalities: claim 14, line 1, "Carboxylate-alumoxane particles" is suggested to be changed to -- Carboxylate-alumoxane **nanoparticles**--.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

**A person shall be entitled to a patent unless --**

**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

4. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated

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Callendetr et al. [Chem. Mater., 9, 2418-2433(1997)].

The present invention relates to a method to prepare carboxylate-alumoxane nanoparticles, comprising

mechanically shearing a mixture of	boehmite
	carboxylic acid

(summary of claim 1)

Callender et al. disclose a carboxylate-alumoxane ( $[Al(O)_x(OH)_y(OO CR)_z]_n$ ) obtained by a reaction of boehmite ( $[Al(O)(OH)]_n$ ) with acetic acid (A), methoxyacetic acid (MA), (methoxyethoxy) acetic acid (MEA), or [(methoxyethoxy)ethoxyl] acetic acid (MEEA), wherein the particle size of MEEA-alumoxane, MEA-alumoxane, or A-alumoxane is 67, 50, or 28 nm, respectively (abstract; page 2422-second column). Attention is drawn to a procedure to prepare A-alumoxane on page 2433, wherein pseudoboehmite is slowly added to a vigorously stirring mixture of acetic acid in water to form A-alumoxane. Attention is also drawn to a procedure to prepare MEA-alumoxane, wherein pseudoboehmite and (methoxyethoxy)acetic acid are refluxed in water (page 2433). The action of "vigorously stirring" or "refluxing" reads on a mechanical shear. Thus, the present claims are anticipated by the disclosure of Callender et al..

5. Claim 14 are rejected under 35 U.S.C. 102(b) as being anticipated by

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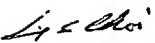
Barron et al. (US 6,322,890 B1).

Barron et al. disclose a carboxylate-alumoxane nanoparticle obtained by the reaction of boehmite or pseudoboehmite with a carboxylic acid in a solvent (col. 5, lines 39-41). Thus the present claim is anticipated by the disclosure of Barron et al.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.

  
**LING-SUI CHOI**  
**PRIMARY EXAMINER**

December 10, 2004